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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/652,329	08/29/2003	Jason F. Hunzinger	4041A-000008	1641
27572	7590	11/22/2005	EXAMINER	
HARNESS, DICKEY & PIERCE, P.L.C. P.O. BOX 828 BLOOMFIELD HILLS, MI 48303			LOUIS JACQUES, JACQUES H	
			ART UNIT	PAPER NUMBER
			3661	

DATE MAILED: 11/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/652,329

Applicant(s)

HUNZINGER, JASON F.

Examiner

Jacques H. Louis-Jacques

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 September 2005.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☒ Claim(s) 14 and 16-25 is/are allowed.
6) ☒ Claim(s) 1 and 3-13 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 3-13 are rejected under 35 U.S.C. 102(e) as being anticipated by Nakano et al [6,636,802].

Nakano et al '802 discloses a data structure of digital map file and methods for identifying road sections (areas) in a navigation database, applying an update to the navigation database, and generating a database renewal (update) for the navigation database based on road intersections forming by at least two nodes and a link. See figures 6, 9, 11, 36, and 37. According to Nakano et al, there is provided receiving a database update identifying at least one road intersection (cartographic file), constructing a logical representation (connections of roads between its units and a neighboring unit) of the road topology surrounding the at least one road intersections, and identifying (tracing) the at least one road intersection in the navigation database by comparing (matching) the logical representation to a logical representation of the navigation database. See abstract, figures 1, 26-28, 30-32, 38, 40-41. According to Nakano et al, constructing the logical representation comprises building a graph representing the road topology in the vicinity of the at least one road intersection, where nodes of the graph represent road intersections

and links of the graph represent road segments. See figures 6, 9, 11, 26, and 36-37. Additionally, Nakano et al discloses an attribute (records) associating with the at least one road intersection, wherein the attribute is used to identify the at least one road intersection in the navigation database (abstract, figures 6, 23-24; 27, and 30-32), wherein at least one road segment having an attribute is identified, and the attribute of the at least one road segment is used to identify the at least one road intersection in the navigation database (abstract, figures 24, 27, 28, and 30-32, columns 1, 2, 4, and 23-24. In addition, Nakano et al discloses that constructing the logical representation comprises building a tree graph to represent the road topology surrounding the at least one road intersection, where nodes of the tree graph represent road intersections and links of the tree graph represent road segments (figures 5, 37, column 15). Furthermore, Nakano et al discloses that the at least one road intersection serves as a root node for the tree graph (columns 15 and 16). Nakano et al further discloses identifying the at least one road intersection based on a spanning tree matching operation (columns 25 and 26). Nakano et al also discloses selecting candidate road intersections in the navigation database based on proximate location to the at least one road intersection, prior to comparing (matching) the logical representation to a logical representation of the navigation database (columns 2, 27-28, and 40-41). Also, Nakano et al discloses that the depth of the tree graph is based on a probability of number of road segments meeting at one or more road intersection represented by the tree graph (columns 27 and 28 and figures 26-28). The depth of the tree graph, according to Nakano et al, is determined to be a minimum depth required for the tree graph to uniquely identify the at least one road intersection (columns 26-28). Still

according to Nakano et al, there is provided applying the database update to the identified road intersection in the navigation database and formulating a patch indicative of the database update in relation to the navigation database (columns 1, 50-51 and figure 51).

Allowable Subject Matter

3. Claims 14 and 16-25 are allowed.

The prior art fails to particular teach, in combination, identifying an existing node ... using a logical pattern matching operation by constructing a graph with a structure representative of the road topology in the vicinity of at least one of the specified nodes, comparing the graph to a logical representation of the navigational database, classifying each of the specified nodes based on its relation to at least one of an existing node or an existing link in the navigation database' and applying the update instruction in accordance with an ordered operations rule set. The prior art also fails to teach constructing a logical representation for each road intersection uniquely specified in the list of links by building a graph with a structure representing the road topology in the vicinity of the at least one road intersection, where nodes of the graph represent road intersections and links of the graph represent road segments and formulating an ordered set of update instructions for the list of links to be updated in the navigation database, such that each update instruction references at least one logical representation.

Response to Amendments & Arguments

4. The amendments along with the arguments filed therewith on September 25, 2005 have been entered and carefully considered by the examiner.

Applicant has amended the claims to recite constructing a logical representation ...” by building a graph with a structure representative of the road topology surrounding the at least one road intersection, where nodes of the graph represent road intersections and links of the graph represent road segments” (claim 1); identifying an existing node ... using a logical pattern matching operation “by constructing a graph with a structure representative of the road topology in the vicinity of at least one of the specified nodes and comparing the graph to a logical representation of the navigational database” (claim 14); and constructing a logical representation for each road intersection uniquely specified in the list of links....”by building a graph with a structure representing the road topology in the vicinity of the at least one road intersection, where nodes of the graph represent road intersections and links of the graph represent road segments (claim 23).

Applicant argued, “the Nakano’802 patent fails to disclose or suggest a method for updating data in a navigation database.” The examiner disagrees.

Contrary to Applicant’s assertion, Nakano does disclose updating data in a navigation database. See column 3. In fact, Nakano discloses, for example in the abstract, updating data in a database or storage, wherein updating one cartographic file does not require updating cartographic files in the neighboring units. The cartographic files represent map data representing as nodes and links defining connections of roads between its unit and a neighboring unit. The cartographic files are stored in a storage device as digital data.

As described by Nakano, the cartographic files contain road network data, wherein the road network data is at least composed of connection information showing connections among nodes and links. A node is a piece of information representing an intersection in the road network, and a link is vector information representing a road between two intersections, i.e. road segments. See column 1, lines 40-45.

In addition, contrary to Applicant's assertion, Nakano discloses applying an update to a navigation database by constructing a graph (nodes and links) with a structure representing road topology surrounding at least one road intersection. Furthermore, Nakano discloses applying an update instruction for a graph (e.g., two nodes and a link) to a navigation database. See column 12.

Upon further consideration, claims 14 and 16-25 are found to contain allowable subject matter. Claims 1, 3-13, however, are still rejected over Nakano.

Accordingly, Claims 2, 15, and 26 are canceled, claims 14 and 16-25 are allowed and claims 1 and 3-13 remain rejected. This office action is made final.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

6,487,559	McGrath et al	Nov. 2002
6,546,334	Fukuchi et al	Apr. 2003
6,549,847	Ikeuchi et al	Apr. 2003
GB2237905A	WOSTER	Oct. 1989

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6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jacques H. Louis-Jacques whose telephone number is 571-272-6962. The examiner can normally be reached on M-Th 5:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Black can be reached on 571-272-6956. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jacques H Louis-Jacques
Primary Examiner
Art Unit 3661

/jlj

Jacques H. Louis-Jacques
JACQUES H. LOUIS-JACQUES
PRIMARY EXAMINER